AMENDMENT TO THE CLAIMS

1. (Previously Presented) An apparatus for converting a pitch delay using linear prediction in speech transcoding, the apparatus comprising:

a linear interpolating portion, which linearly interpolates a closed-loop pitch delay decoded by a selected mode vocoder (SMV) speech decoder to make the closed-loop pitch delay fit in a search section for open-loop pitch delays of G.723.1 speech encoder, to thereby obtain a changed closed-loop pitch delay of the SMV decoder;

a predicted value calculating portion, which calculates a predicted pitch delay using linear prediction, based on past closed-loop pitch delays of the G.723.1 speech encoder;

a difference calculating portion, which calculates a difference between the changed closed-loop pitch delay of the SMV speech decoder and the calculated predicted pitch delay;

a comparing portion, which compares the calculated difference with a predetermined threshold value and outputs the result of the comparison;

a pitch delay determining portion, which, when the calculated difference is less than the predetermined threshold value, determines the changed closed-loop pitch delay of the SMV speech decoder to be an open-loop pitch delay of the G.723.1 speech encoder; and

a pitch delay detecting portion, which detects a closed-loop pitch delay of the G.723.1 speech encoder based on the determined open-loop pitch delay of the G.723.1 speech encoder.

2. (Original)   The apparatus of claim 1, wherein the linear interpolating portion extracts two pitch delays of the SMV decoder every 30 ms, which corresponds to a frame of the G.723.1 speech encoder, and linearly interpolates the extracted pitch delays of the SMV decoder to obtain the changed closed-loop pitch delay of the SMV speech decoder.

3. (Currently Amended) The apparatus of claim 1, wherein when the calculated difference is equal to or more than the predetermined threshold value, the pitch delay determining portion determines the closed-loop pitch delay of the G.723.1 speech encoder ~~that is obtained using a conventional method of detecting a open-loop pitch delay of the G.723.1 speech encoder~~ to be the open-loop pitch delay of the G.723.1 speech encoder.

4. (Previously Presented) A method for converting a pitch delay using linear prediction in speech transcoding, the method comprising:

(a) linearly interpolating a closed-loop pitch delay decoded by a selected mode vocoder (SMV) speech decoder to make the closed-loop pitch delay fit in a search section for open-loop pitch delays of G.723.1 speech encoder, and obtaining a changed closed-loop pitch delay of the SMV speech decoder

(b) calculating a predicted pitch delay using linear prediction, based on past closed-loop pitch delays of the G.723.1 speech encoder

(c) calculating a difference between the changed closed-loop pitch delay of the SMV decoder and the calculated predicted pitch delay;

(d) comparing the calculated difference with a predetermined threshold value and outputting the result of the comparison;

(e) determining the changed closed-loop pitch delay of the SMV speech decoder to be an open-loop pitch delay of the G.723.1 speech encoder when the calculated difference is less than the predetermined threshold value; and

(f) detecting a closed-loop pitch delay of the G.723.1 speech encoder based on the determined closed-loop pitch delay of the G.723.1 speech encoder.

5. (Original) The method of claim 4, wherein step (a) comprises

(a1) extracting two pitch delays of the SMV decoder every 30 ms, which corresponds to a frame of the G.723.1 speech encoder;

(a2) linearly interpolating the extracted pitch delays of the SMV decoder to obtain the changed closed-loop pitch delay of the SMV speech decoder.

6. (Currently Amended) The method of claim 4, wherein in step (e), when the calculated difference is equal to or more than the predetermined threshold value, the closed-loop pitch delay of the G.723.1 speech encoder ~~that is obtained using the conventional method~~ is determined to be the open-loop pitch delay of the G.723.1 speech encoder.